

CLAIMS

What is claimed is:

1. A system for writing position information to a rotatable medium, comprising:

5 a rotatable medium capable of storing information written to the rotatable medium, the rotatable medium having an inner diameter and an outer diameter;

 a write element capable of writing information to the rotatable medium; and

10 a control mechanism adapted to rotate the rotatable medium and position the write element relative to the rotatable medium, such that the write element can:

 write a first servo burst during a first pass of a write element over a rotatable medium;

15 trim the first servo burst during a second pass of the write element;

 write a second servo burst during a third pass of the write element; and

20 write at least one additional servo burst during at least one subsequent pass of the write element, the number of additional servo bursts being dependent upon the location of the additional servo bursts relative to at least one of the inner diameter and outer diameter, wherein the first servo burst, second servo burst, and
25 any additional servo bursts each have an edge that can be used to determine position during a subsequent pass over those servo bursts.

2. A system according to claim 1, wherein:

30 the rotatable medium is selected from the group consisting of magnetic disks, optical disks, and laser-recordable disks.

3. A system according to claim 1, wherein:

the first servo burst, second servo burst, and each additional servo burst each have an edge that is positioned approximately along a track line, the track line extending circumferentially about the disk.

5

4. A system according to claim 1, further comprising:

a read element adapted to read the first servo burst, second servo burst, and each additional servo burst on a subsequent pass over the rotatable medium.

10

5. A system according to claim 4, further comprising:

a read/write head containing the read element and the write element.

15

6. A system according to claim 5, further comprising:

read circuitry adapted to accept information from the read element and determine the position of the read/write head.

7. A system according to claim 1, wherein:

20

the write element trims the first servo burst to have a trimmed edge defining a first portion of a burst boundary, and the write element writes the second and each additional servo burst to have a written edge, the written edges defining a second portion of the burst boundary.

25

8. A system according to claim 1, wherein:

the write element is further adapted to trim the first servo burst such that the width of the first servo burst after trimming is approximately equal to the width of a track of servo data.

30

9. A system according to claim 1, wherein:

the write element only writes an additional servo burst if the

boundary defined by the first and second servo bursts determines the position of a data track centerline.

10. A system according to claim 1, wherein:

5 the write element is further adapted to write the first, second, and additional servo bursts in a servo wedge on the rotatable medium.

11. A system according to claim 1, wherein:

10 the write element undergoes at least one of the additional passes before the second pass.

12. A system according to claim 1, wherein:

15 the number of additional servo bursts increases from near the inner diameter to near the outer diameter.

13. A system for writing position information to a rotatable medium, comprising:

20 a rotatable medium capable of storing information written to the rotatable medium, the rotatable medium having an inner diameter and an outer diameter;

 a write element capable of writing information to the rotatable medium; and

25 a control mechanism adapted to rotate the rotatable medium and position the write element relative to the rotatable medium, such that the write element can:

 write a first servo burst during a first pass of the write element over the rotatable medium;

 trim the first servo burst during a second pass of the write element;

30 write a second servo burst during a third pass of the write element wherein the first servo burst and second

servo burst each have an edge forming a burst boundary that can be used to determine the position of the write element during a subsequent pass over those burst patterns; and

5 write at least one additional servo burst during at least one subsequent pass of the write element if the burst boundary defines the position of a data track centerline, the number of additional servo bursts being dependent upon the location of the additional
10 servo bursts relative to at least one of the inner diameter and outer diameter.

14. A system according to claim 13, wherein:

15 the write element trims less than all of the first servo burst during the second pass.

15. A system according to claim 13, wherein:

20 the write element can use a fourth pass to trim that portion of the first servo burst that was not trimmed during the second pass.

16. A system for writing position information to a rotatable medium, comprising:

25 a rotatable medium capable of storing information written to the rotatable medium, the rotatable medium having an inner diameter and an outer diameter;

a write element capable of writing information to the rotatable medium; and

30 a control mechanism adapted to rotate the rotatable medium and position the write element relative to the rotatable medium, such that the write element can:

write at least a portion of a first servo burst during a first pass

of a write element over a rotating medium;
trim at least a portion of the first servo burst during a second
pass of the write element;
write at least a portion of a second servo burst during a third
5 pass of the write element, wherein the first servo burst
and second servo burst each have an edge defining
a burst boundary that can be used to determine the
position of the write element during a subsequent
pass over those servo bursts;
10 determine the location of the first and second servo bursts;
and
for each first and second servo burst near the outer
diameter, write at least a portion of an additional servo
burst during at least one subsequent pass of the write
15 element.

17. A system according to claim 16, wherein:
writing at least a portion of an additional servo burst occurs if the
boundary defines the position of a track centerline, wherein the additional
20 burst pattern is also used to define the burst boundary.

18. A system for writing position information to a rotatable medium,
comprising:
means for writing a first servo burst during a first pass of a write
25 element over a rotatable medium;
means for trimming the first servo burst during a second pass of the
write element;
means for writing a second servo burst during a third pass of the
write element; and
30 means for writing at least one additional servo burst during at least
one subsequent pass of the write element, the number of additional servo

- bursts being dependent upon the location of the additional servo bursts relative to at least one of an inner diameter and an outer diameter or the rotating medium, wherein the first servo burst, second servo burst, and any additional servo bursts each have an edge that can be used to determine
- 5 position during a subsequent pass over those servo bursts.